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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re:	Peter S. Whitney, et al.	Patent Application
Serial No:	10/021,765	Group: 2874
Filed:	December 12, 2001	Examiner: Lin, Tina M.
For:	MEMS Tunable Optical Filter System with Moisture Getter for Frequency Stability	

RESPONSE TO OFFICE ACTION

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AUG 18 2003

Assistant Commission for Patents
Washington, D.C. 20231

TECHNOLOGY CENTER

Sir:

This is in response to the pending Office Action, mailed April 17, 2003 (Paper No. 3).

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Claims 1-11 are pending in this application.

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The only outstanding issues concern the rejection of claims 1-5 and 8-11 under 35

U.S.C. § 103(a), as being unpatentable over U.S. Pat. Appl. Pub. US2002/0064352 A1, to Andersen, et al., and the rejection of claims 6 and 7 in further view of U.S. Pat. No. 6,373,620 to Wang.

One preliminary issue that might need clarification is the nature of the invention.

The optical spectrum analyzer of Figs. 1-3 is prior art to the present invention. That is, the optical spectrum analyzer of Figs. 1 and 2, including a tunable filter as shown in Fig. 3, had been shipping for more than one year prior to the filing date of the instant application. Moreover, the tunable filter and optical spectrum analyzer designs are

18 August 2003
Application No.: 10/021,765
Docket: 1109-US

subject to numerous other patents and applications filed by the inventors, and others associated with the assignee. See for example U.S. Pat. Nos. 6,341,039 and 6,407,376. The arguments of the Office Action do not seem to comprehend the state of the art.

Instead, the present claimed invention is directed to the inclusion of a getter in the optical filter package.

The value of this getter became apparent to the inventors in volume manufacturing the optical spectrum analyzer of Figs. 1 and 2. Typically, the optical spectrum analyzer was subject to spectral shifts or drift over time that affected its frequency accuracy. The nature of these spectral shifts was, at one point, not known. Research by the inventors led them to conclude that it was associated with the material stress of the thin film mirrors of the MEMS filter. Changes in material stress associated with moisture in the hermetic package led to frequency shifts in the filter.

As shown in Figs. 6A and 6B, the inclusion of the getter improved the stability of the mirror against frequency drift.

This problem is neither appreciated by the prior art, nor is a solution suggested. Therefore, one skilled in the art, based on the applied references, would not find it obvious to include a getter as claimed. Certainly, it was not obvious to the inventors. Months of research and study were required to isolate the moisture as the source for at least some of the frequency drift.

For the foregoing reasons, Applicants believe that the present claimed invention is distinguishable over the applied references.

18 August 2003
Application No.:10/021,765
Docket: 1109-US

Applicants believe that the present application is in condition for allowance. A Notice of Allowance is respectfully solicited. Should any questions arise, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

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Date: 18 August 2003

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